

### **Abstract**

A power management system and method for a wireless communication device generates an average desired transmit power signal based on at least one of a received signal strength indicator signal and a power control instruction signal from a base station. A power supply level adjustment signal is generated based on the data parameters of an outgoing data stream and at least one environmental information signal. A combination of the power supply level adjustment signal and the average desired transmit power or a gain control signal and an altered version of the power supply level adjustment signal is used to generate a variable power supply signal that is provided to an output amplifier block for sufficiently generating outgoing wireless device radio signals while reducing power loss in the output amplifier block.